CLAIMS:

1.- A packet scheduling method comprising:

enqueuing incoming data packets in sessions,

storing the sessions in sequential order in service-groups, each service-group being assigned a nominal service-interval in which time a data packet is to be transmitted, the nominal service-interval of one service-group being faster than the nominal service-interval of another service-group,

within one service-group, servicing one session until the nominal service-interval of any of the service-groups where there is at least one data packet to be sent is exceeded.

2.- A packet scheduling method according to claim 1, each data packet having a priority for selection, the method further comprising:

if the nominal service-interval of a service-group is exceeded and if a data packet from that service-group is not selected, then its priority for a next selection is changed such as to give it a higher priority.

3.- A packet scheduling method according to claim 1, wherein:

the service-interval is measured in accordance with virtual time, which virtual time is incremented in accordance with the time expected for transmission of the next packet to be sent.

4.- A packet scheduling method according to claim 1, wherein:

the service-interval is measured in accordance with virtual time, which virtual time is incremented in accordance with the time for transmission of the latest packet sent.

5.- A packet scheduling method according to claim 1, each service-group comprising a current session list and at least one new session list, the method further comprising:

holding a virtual time value,

in at least one of the service-groups, holding at least one session having at least a head-of-session data packet, the session requiring a required service-interval for its head-of-session data packet, sessions requiring different service-intervals for their head-of-session data packets being held in different service-groups,

at integer values of the virtual time value, swapping the new session lists into the current session lists for service-groups which may receive service at that virtual time value, if the current session list for that service-group is empty, and increasing a MissedSwaps counter for that service-group if the current session list for that service-group was not empty,

transmitting the head-of-session data packet from a session in a current session list,

scheduling transmission of the next data packet from that session based on the required service-interval of the previous data packet and a service interval it was actually given, and on the value of the MissedSwaps counter,

increasing the virtual time value and

repeating the transmitting and increasing steps as long as the virtual time does not reach a next integer value, otherwise repeating the swapping step.

6.- A packet scheduling apparatus, comprising:

an input device for receiving incoming data packets belonging to at least one session,

a bank of memories comprising memory sets for storing the incoming data packets, the memory sets having a nominal service-interval in which time a data packet is to be transmitted, the nominal service-interval of one memory set being faster than the nominal service-interval of another memory set,

an output device for transmitting the stored data packets,

a processing element linked to the input device, the output device and the bank of memories for scheduling sessions for being serviced until the nominal service-interval of any of the memory sets where there is at least one data packet to be sent, is exceeded.

7.- A packet scheduling apparatus according to claim 6, each data packet having a priority value for selection, the apparatus furthermore comprising:

a priority switcher for changing the priority value of a data packet for a next selection such as to give it a higher priority value if the nominal service-interval of a memory set is exceeded and if a data packet stored in that memory set is not selected.

8.- A packet scheduling apparatus according to claim 6, further comprising:

a timing unit for measuring the service-interval in accordance with virtual time, which virtual time is incremented in accordance with the time expected for transmission of the next packet to be sent.

9.- A packet scheduling apparatus according to claim 8, each memory set having a current session list memory and at least one new session list memory for holding data packets, the apparatus further comprising:

input means for inputting arriving data packets into the memory sets, data packets having a required service-interval,

a timing unit for holding a virtual time value,

means for swapping the content of the new session list memories into the current session list memories at integer values of the virtual time value, for memory sets which may receive service at that virtual time value, if the current session list memory for that memory set is empty, and a MissedSwaps counter for that memory set to be increased if the current session list memory for that memory set was not empty,

means for transmitting data packet from a current session list memory, and

a scheduler for scheduling transmission of a next data packet from that memory set based on the required service-interval of the next data packet to be sent, and on the value of the MissedSwaps counter.

10.- A packet scheduling apparatus according to claim 6, further comprising:

a timing unit for measuring the service-interval in accordance with virtual time, which virtual time is incremented in accordance with the time for transmission of the latest packet sent.

11.- A packet scheduling apparatus according to claim 6, further comprising:

a timing unit for measuring the service-interval in accordance with virtual time, which virtual time is incremented in accordance with the time expected for transmission of the next packet to be sent.

12.- A packet scheduling apparatus according to claim 10, each memory set having a current session list memory and at least one new session list memory for holding data packets, the apparatus further comprising:

input means for inputting arriving data packets into the memory sets, data packets having a required service-interval,

a timing unit for holding a virtual time value,

means for swapping the content of the new session list memories into the current session list memories at integer values of the virtual time value, for memory sets which may receive service at that virtual time value, if the current session list memory for that memory set is empty, and a MissedSwaps counter for that memory set to be increased if the current session list memory for that memory set was not empty,

means for transmitting data packet from a current session list memory, and

a scheduler for scheduling transmission of a next data packet from that memory set based on the required service-interval of the previous data packet and a

service interval it was actually given, and on the value of the MissedSwaps counter.